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**PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR)**

**SUBMITTED BY:**

Department	<b>MSL</b>	College/School	<b>SFOS</b>
Prepared by	<b>Ana M Aguilar-Islas</b>	Phone	<b>907 474 1524</b>
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See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> for a complete description of the rules governing curriculum & course changes.

**PROGRAM IDENTIFICATION:**

<b>DEGREE PROGRAM</b>	<b>Minor in Marine Science</b>
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	<b>B.A, B.S.</b>

**A. CHANGE IN DEGREE REQUIREMENTS:** (Brief statement of program/degree changes and objectives)

The minor in Marine Science is offered to undergraduate students in all degree programs except for students enrolled in the BS degree in Fisheries and Ocean Sciences (Ocean Sciences concentration). The requested change is to the elective portion of the program, and NOT to the core of the minor. The following change is requested:

- 1) Addition of several new MSL courses (paperwork of those with "\*" is included for approval)
- 2) Deletion of one elective course no longer offered
- 3) Rearrangement of elective courses to reflect new offerings

**B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:**

1. Complete the following:

MSL F211—Introduction to Marine Science I .....	3
MSL F212—Introduction to Marine Science II.....	3
MSL F213L—Marine Science Laboratory.....	1

2. Complete 3 credits from the following:

MSL F317—Introduction to Marine Mammal Biology.....	3
MSL F330—The Dynamic Alaskan Coastline.....	3
MSL F403—Estuaries Oceanography.....	3
MSL F412—Early Life Histories of Marine Invertebrates.....	3
MSL F431—Polar Marine Science.....	3
MSL F449 – Biological Oceanography.....	3
MSL F463—Chemical Coastal Processes.....	3

Complete 5 additional credits from the following:

**Marine Science and Limnology**

MSL F220—Scientific Diving.....	2
MSL F317—Introduction to Marine Mammal Biology.....	3
MSL F330—The Dynamic Alaskan Coastline.....	3
MSL F403—Estuaries Oceanography.....	2
MSL F412—Early Life Histories of Marine Invertebrates.....	3
MSL F419—Concepts in Physical Oceanography.....	3
MSL F421—Field Course in Subtidal Studies.....	2
MSL F431—Polar Marine Science.....	3
MSL F440—Oceanography for Fisheries.....	3
MSL F449—Biological Oceanography.....	3
MSL F450—Marine Biology and Ecology Field Course.....	4
MSL F456—Kelp Forest Ecology.....	4

MSL F461—Chemical Oceanography.....	3
MSL F463—Chemical Coastal Processes.....	3
MSL F492—IMS Seminar.....	1
<b>Fisheries</b>	
FISH F288/BIOL F288—Fish and Fisheries of Alaska.....	3
FISH F425—Fish Ecology.....	3
FISH F440—Oceanography for Fisheries.....	3
FISH/BIOL F427—Ichthyology.....	3
<b>Chemistry</b>	
CHEM F202—Basic Inorganic Chemistry.....	3
CHEM F212—Chemical Equilibrium and Analysis.....	4
<b>Biology and Wildlife</b>	
BIOL F305—Invertebrate Zoology.....	5
BIOL F473—Limnology.....	4
<b>Economics</b>	
ECON F235—Introduction to Natural Resource Economics.....	3
<b>Geology and Geophysics</b>	
GEOS/GEOG F222—Fundamentals of Geospatial Sciences.....	3
<b>Statistics</b>	
STAT F200X—Elementary Probability and Statistics.....	3
4. Minimum credits required.....	15

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:  
 (Underline new wording strike through old wording and use complete catalog format )

1. Complete the following:	
MSL F211—Introduction to Marine Science I .....	3
MSL F212—Introduction to Marine Science II.....	3
MSL F213L—Marine Science Laboratory.....	1
2. Complete 3 credits from the following:	
<u>MSL F215—Marine Geological Drama and Undersea Catastrophes . . . . 3</u>	
<u>MSL F216—The Oceans and Global Change . . . . . 3</u>	
<u>MSL F218—Astrobiology . . . . . 3*</u>	<i>-new course; received.</i>
<u>MSL F305—Invertebrate Zoology . . . . . 4*</u>	<i>-new cross-listing with BIOL/FISH F305 2A</i>
<u>MSL F310—History of Ocean Exploration . . . . . 3*</u>	<i>-new course; received.</i>
MSL F317—Introduction to Marine Mammal Biology.....	3
<del>MSL F330—The Dynamic Alaskan Coastline.....</del>	<del>3</del>
MSL F403—Estuaries Oceanography.....	3
MSL F411—Current Topics in Oceanography . . . . . 3	
MSL F412—Early Life Histories of Marine Invertebrates.....	3
MSL F419—Concepts in Physical Oceanography.....	3
MSL F431—Polar Marine Science.....	3
MSL F449—Biological Oceanography.....	3
MSL F461—Chemical Oceanography . . . . . 3	
MSL F463—Chemical Coastal Processes.....	3
<u>MSL F464—Ecological and Evolutionary Genomics. . . . . 3*</u>	<i>-new course; received.</i>
Complete 5 additional credits from the following:	
<b>Marine Science and Limnology</b>	
<u>MSL F215—Marine Geological Drama and Undersea Catastrophes . . . . 3</u>	
<u>MSL F216—The Oceans and Global Change . . . . . 3</u>	
<u>MSL F218—Astrobiology . . . . . 3</u>	
MSL F220—Scientific Diving.....	2
<u>BIOL/MSL F305—Invertebrate Zoology . . . . . 4</u>	
<u>MSL F310—History of Ocean Exploration . . . . . 3</u>	
MSL F317—Introduction to Marine Mammal Biology.....	3
<del>MSL F330—The Dynamic Alaskan Coastline.....</del>	<del>3</del>
MSL F403—Estuaries Oceanography.....	2

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MSL F411—Current Topics in Oceanography . . . . .	3
MSL F412—Early Life Histories of Marine Invertebrates.....	3
MSL F419—Concepts in Physical Oceanography.....	3
MSL F421—Field Course in Subtidal Studies.....	2
MSL F431—Polar Marine Science.....	3
MSL F440—Oceanography for Fisheries.....	3
MSL F449—Biological Oceanography.....	3
MSL F450—Marine Biology and Ecology Field Course.....	4
MSL F456—Kelp Forest Ecology.....	4
MSL F461—Chemical Oceanography.....	3
MSL F463—Chemical Coastal Processes.....	3
MSL F464—Ecological and Evolutionary Genomics. . . . .	3*
MSL F492—IMS Seminar.....	1
<b>Fisheries</b>	
FISH F288/BIOL F288—Fish and Fisheries of Alaska.....	3
FISH F425—Fish Ecology.....	3
FISH F440—Oceanography for Fisheries.....	3
FISH/BIOL F427—Ichthyology.....	3
<b>Chemistry</b>	
CHEM F202—Basic Inorganic Chemistry.....	3
CHEM F212—Chemical Equilibrium and Analysis.....	4
<b>Biology and Wildlife</b>	
BIOL F305—Invertebrate Zoology.....	4
BIOL F473—Limnology.....	4
<b>Economics</b>	
ECON F235—Introduction to Natural Resource Economics.....	3
<b>Geology and Geophysics</b>	
GEOS/GEOG F222—Fundamentals of Geospatial Sciences.....	3
<b>Statistics</b>	
STAT F200X—Elementary Probability and Statistics.....	3
4. Minimum credits required.....	15

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**D. ESTIMATED IMPACT**

*WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.*

The impact of the proposed action on UAF budget is expected to be positive, as the added flexibility is expected to increase enrollment in the minor.  
 Facilities/space and faculty are not expected to be negatively impacted by the requested changes, because these courses are either already being offered, or proposed as part of the faculty approved workloads.

**E. IMPACTS ON PROGRAMS/DEPTS:**

*What programs/departments will be affected by this proposed action?  
 Include information on the Programs/Departments contacted (e.g., email, memo)*

Potential increase in enrollment due to added flexibility to the minor would be a positive impact of the proposed action for the MSL program. Students already enrolled in the minor will benefit from a wider selection of elective courses and greater ease of scheduling courses to complete the requirements.

**F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:**

*Description of the student learning outcomes assessment process.)*

The outcomes assessment plan is unchanged; adding additional courses will not alter the assessment process.

**JUSTIFICATION FOR ACTION REQUESTED**

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

The requested changes to increase elective courses and redistribute elective offerings among the two elective course subgroups (i.e., 3 credits from MSL offerings and 5 credits from MSL and other departments), is done as part of our continued effort to provide a flexible, "doable" minor for all UAF students. During recruiting, students had expressed concern about the number of offerings for elective courses, and ambivalence in signing up for the minor for fear they would be unlikely to complete the minor in time for their graduation.

Currently, MSL course electives are offered at varying frequency, and mainly at the 400-level. Several courses at the 200- and 300-level have been added (or are concurrently requested to be added) to the course catalog to better serve undergraduate student interest. This request increases the flexibility and appeal of our minor, and provides a broader educational experience for our students.

The removal of MSL F330 from the elective list reflects the loss of the faculty who taught the course, and its lack of replacement in the foreseeable future.

The removal of BIOL F305 from the elective list reflects the request to cross-list this course with MSL F305, and to list the cross-listed course.

**APPROVALS: SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

DocuSigned by: <b>J. Reynolds</b> <small>Signature, Chair, Program/Department of:</small>	Date September 27, 2016	<u>Oceanography</u>
DocuSigned by: <b>Sarah Hardy</b> <small>Signature, Chair, Program/Department of:</small>	Date September 28, 2016	<u>Marine Biology</u>
DocuSigned by: <b>J. S. A.</b> <small>Signature, Chair, College/School Curriculum Council for:</small>	Date September 28, 2016	CFOS
DocuSigned by: <b>J. S. A.</b> <small>Signature, Dean, College/School of:</small>	Date September 28, 2016	CFOS

**CHAIR SIGNATURE OBTAINED FOLLOWING APPROVAL BY FACULTY SENATE COMMITTEE**

	Date	
Signature, Chair, UAF Faculty Senate ___ Curriculum Review Committee  Graduate Academic and Advisory Committee		